

REPORT
OF THE
ACTING SUPERINTENDENT
OF THE
YELLOWSTONE NATIONAL PARK
TO THE
SECRETARY OF THE INTERIOR.

Geo. L. Anderson

1894.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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SUPERINTENDENT OF YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SUPERINTENDENT
YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs, Wyo., August 13, 1894.

SIR: Complying with your request of the 14th ultimo, I submit the following report of operations and events in the Yellowstone National Park during the past year:

The tourist season of last year was the most peculiar of any in the history of the Park. My last report bears date of the 27th of July. From that time on, until the end, the falling off that I then noted continued and increased. The regular travel only amounted to 3,076, as against 3,645 for the year previous. Camping parties and irregular outfits suffered more from the depression than did the regular stage and hotel business. This was doubtless due to two causes—the Columbian Exhibition and the financial condition of the country. There was never a season when the hotel registers showed such a cosmopolitan list of names. Nearly every country in the world was represented, and it was no unusual thing to find in the arrivals of a single day people from ten or twelve different foreign nations. Had it not been for this foreign contingent, business in the Park would have proved ruinous; I doubt if any of the companies having franchises here made any money, and it is probable that nearly all found the balance against them at the end of the season.

The travel during the month of June is mostly from the West. Extensive washouts on that part of the railroads, occasioned by the rapid melting of the very heavy snow of last winter, kept tourists out.

From June 26 until July 20 there were no trains running over the railroads, owing to the strikes; thus one-half of the season was passed with no profitable business. This is particularly to be regretted, as the hotel, stage, and boat companies were in better shape than ever before to care for tourists, and the Park was in many ways unusually attractive. There is now little prospect of a prosperous ending of the season, and 1894 will probably stand as the most disastrous to business interests of any in the history of the Park. People who had planned to make the tour at even later dates than this have become alarmed at the interference with travel and have abandoned their trip.

The road over the divide was opened on June 20, the same date as last year; but at the opening it was in much better condition than ever before at this period. With small expenditures for repairs the road will be one of the best, as it is one of the most interesting, in the whole circuit.

A more thorough and exact system of registry will enable me to report in future the number of tourists who go through in their own conveyances and in camping parties. There is no more satisfactory way of seeing the Park than on horseback and with a camp equipment. To many who live near here, and to people of limited means, this affords a cheap and delightful excursion. Such parties are, however, the source of many annoyances in park management:

(1) They are often careless about leaving fires. (2) They leave their camping places unpoliced. (3) They are more inveterate specimen hunters than any other class. (4) They are more apt to disfigure the Park by inscribing their names on all available places.

The proposition made by some parties to establish semipermanent camping places has not received my approval, nor that of the Department, for the reason that they would soon degenerate into ill-kept, unsightly structures, fit breeding places for vermin of all kinds.

LEASES.

The leases of the Yellowstone Park Association are the same as last year. As I write, the papers bring the news that a bill has been passed regulating leases in the Yellowstone National Park. As I understand the bill, it is an excellent measure, and contains several much-needed changes. The main points are: The extension from 10 to 20 acres of the limit allowed under a single lease, not more than 10 acres of which may be held at any one place. Under existing law no lease may be granted within a quarter of a mile of a geyser or other object of interest. The new law very properly reduces this distance to one-eighth of a mile. The immediate effect of this act will be the authorization of a hotel at the Upper Geyser Basin, on the site now occupied, but illegally, by the lunch station at that place. A hotel here has long been one of the greatest needs of the Park, and should the Park Association be able to raise the money and complete the building it would add much to the attractiveness of the tour.

So far there have been no changes in the leases within the Park, excepting the lease of Mr. F. J. Haynes, the photographer, which expired some months since and has been renewed, as has also that of Mr. Yancey.

Under the new law it will be possible for the Yellowstone Park Association to cover by their leases all the ground now occupied by them.

I renew my recommendation of last year that proceedings be had by the Government for the acquirement of the two frame cottages near the forks of the Fire Hole, for use by the troops there stationed during the summer.

The blacksmith's shop and saddler's shop on the plateau facing this office have been removed. There still remains, however, the unsightly barn pertaining to the Yellowstone Park Association. Were it not for the trouble and expense attending its removal, I should recommend that it be put in a position near the base of the hill to the north of the hotel.

The transportation company has improved all of its sites, and kept them in thorough order. I do not believe that they will need any changes in their holdings under the new law. Since my last report, travel has been so slack that they have had no trouble whatever in handling it. Their plant is the finest I have ever seen.

Applications from outside parties for licenses to carry on transportation business in all forms continue to pour into this office. When I

consider the obligations the regular company has assumed and the bonds that it has given for their faithful performance, I have not felt justified in recommending approval in more than one or two cases, and these were to parties who would furnish good accommodations for the cheaper class of travel. Most of the people who have been barred out of the Park business have made bitter complaints at being deprived of this form of livelihood, but a regulated system here is even more of a necessity than is a licensed cab system in a large city. The extent of the country and the difficulty of watching and guarding it make it doubly essential that none but well-known, reputable, and responsible parties be allowed to conduct this form of business here.

Mr. French, who for several years past has carried the mail from this point to Cooke City, has not received the contract this year, and he desires to transfer his holdings at Yancey's and Soda Butte to the man who succeeds him. There is no objection to this transfer, and I shall recommend its approval.

An application by Mr. George Ash, postmaster, for the lease of a small plot on which to erect a post-office and store, should be approved, as many travelers find themselves in need of such small articles as he keeps for sale.

Within the past year two important decisions relating to the boundaries of the Park have been rendered from your office. The first of these is, that the east and west line through the mouth of the Gardiner River is the north boundary of the Park, notwithstanding the fact that it at one time included a part of the Crow Reservation. The other decision is to the effect that what is now known as "Shoshone Lake," is the one from which the west boundary line is to be established, although in the act of dedication it is called "Madison Lake."

The old project to segregate the northern portion of the Park, in the interests of a few mercenary speculators, was again revived with renewed intensity. It is to be hoped that Congress will adjourn without this bill having a place on the statute books.

A bill that on its face might seem harmless has been introduced in Congress to permit the passage of a railroad through the Park on any line which its projectors may select. In every respect this is the most vicious bill that has been introduced within my knowledge. Six months from the entrance of the first locomotive within the limits of the Park there will not be left one acre of its magnificent forests unburned. The line of this road would of necessity pass near the Yellowstone Lake. The great amount of moisture furnished by the lake and its numerous tributaries give a mantle of snow that will average 15 feet in depth, and with the strong winds prevailing in this mountainous country no railroad could be kept running during the six months of winter without being entirely inclosed in snow sheds, which would prove destructive to the natural beauty of the Park.

Mr. Gallagher, who last year had the contract for running the boundary of the timber reserve, did not begin his work at the most easterly portion of the lake, nor did he make his line continuous from the point where it should have begun, to the north line of the Park, nor did he properly and conspicuously mark the line. If it should be found practicable to have an officer of the Corps of Engineers report to me for temporary duty, I could have the line carefully run and so marked that it would be instantly recognized wherever crossed. The Park now has no greater need than that the boundary line shall be everywhere conspicuous. Last season an accurate determination was made of the latitude and longitude of a point near the lake. A granite

monument has been placed to mark the spot, and a base line measured from it as an origin. This will give a point from which the boundaries of the Park can be accurately located.

PROTECTION OF FORESTS.

In my last report the fire near Norris Basin was reported as under control, but not yet entirely extinguished. From first to last it continued over twenty days, and burned over a very irregular tract about 6 miles long and varying from a few feet to a mile or more in width. During the entire summer fires were being started, through the carelessness of camping parties and in other ways, and it is no exaggeration to say that the thorough system of patrol which I have inaugurated, saved the Park from destruction.

I arrived at the Fountain Hotel, on my trip through the Park about four weeks since, and discovered smoke arising from the timber near by. Word was instantly sent to the troop of cavalry camped two miles from there. The soldiers arrived without delay, and by dint of very hard labor, succeeded in getting the fire under control before it reached the tree tops. Ten minutes more headway would probably have put it in a condition to have resisted all efforts at extinction, and I can put no limit short of the lake to its probable extension. I was on the spot very soon after it originated, and made a careful examination of the surroundings and could find no apparent cause of its origin.

This season there are many people making the tour of the Park on foot, as regular tramps. They leave no sign of their camping places, and if they were to start a fire by their pipes or by other means they could easily escape detection by walking quickly off into the timber. This is not only a possible but a very probable origin of several of our recent fires. I am happy to state, however, that none of them have been at all destructive.

OUTPOSTS.

Our system of outposts remains the same as at the date of my last report. The one established on Snake River two years ago has not proven the success that I had hoped it would. It is too far away to be easy of supervision. It is located in a part of the country much frequented by hunting parties, and the section under its protection is too extended and too rough to permit very effective scrutiny. Another station near the mouth of Thoroughfare Creek would materially aid in the protection of this portion of the Park, but the smallness of force under my command, and the distance from the base of supplies, make it impossible for me to establish one there at present.

A soldier from the station at Riverside started for the Lower Basin on snow shoes one day last March and has not since been seen or heard of. He unquestionably perished in the forest, whether from the cold or from some accident, of course no one can tell.

The Park, with the timber reserve, contains an area greater than the State of Connecticut. This is to be protected from fires, from the vandalism of specimen hunters, and from depredations of poachers, by two small companies of troops, who at the same time are required to perform all of their ordinary military duties. I have but one citizen scout to aid in this work. I had a citizen packer who was useful as an assistant, but by orders from superior authority have recently been obliged to discharge him.

MILITARY POST.

The only improvements made at the military post during the year are the completion of the post hospital and the erection of quarters for the hospital steward. A building to be used as a jail and office for the U. S. commissioner is now under contract and work is just being commenced upon it. It is hoped that it will be ready for occupancy before winter.

ROADS.

The same vicious system of construction and maintenance of roads continues, with small likelihood of change. Each spring finds the appropriation for roads entirely exhausted and the most necessary repairs left to the labor of soldiers or to voluntary contributions from the transportation company. Nearly one-half the appropriation for roads in the last fiscal year was used in the partial completion of a single bridge over a dry ravine near the Canyon, where an intelligent estimate for a proper bridge was less than \$2,000. As this bridge is not yet completed, travel over this bit of road is impossible and will remain so for the balance of the year. I renew my recommendation of last year that the control of the appropriation for Park improvement be given to the acting superintendent of the Park. I have no doubt this would result in a saving of at least 25 per cent of the money granted.

HOTELS.

The hotels pertaining to the Yellowstone Park Association, under the able management of Mr. J. H. Dean, have shown a marked improvement. Increase of rates to \$5 per day, authorized by the Department, has resulted in bringing them up to a very high standard. A reduction of rate to \$3 per day after a stay of ten days in the Park has induced many people to prolong their trip. I hear nothing but praise of their cleanliness, neatness, and the excellent manner in which they are generally conducted.

In addition to the need of a hotel at the Upper Basin, of which I have already spoken, a small hotel, with a few rooms, should be put at Norris. This would fill all the needs of the Park until the construction of the road over Mount Washburn, when one should be placed near the mouth of Tower Creek.

TRANSPORTATION.

The Huntley Company still conducts the regular transportation in a satisfactory manner, with an excellent plant. Transportation from Beaver Canyon, on the Union Pacific Railroad, is conducted by the Bassett Brothers, but without definite license from the Department. The new form of license, which has received your approval, should be made applicable to this line, and the proprietors be required to contribute to the support of the Park. The license of \$5 for each wagon required from such parties is not excessive and does not more than compensate for the expenditure made in cleaning up their abandoned camping grounds and making necessary repairs on the road over which they travel.

The question of stop-over privileges, which has heretofore been a vexed one in Park management, has not, within the last year, presented any difficulties. This is possibly due to the very small travel.

I would recommend that instead of a temporary license some responsible party be given a definite lease for a transportation line over the route from Beaver Canyon, and that they be held to requirements similar to those now imposed upon the Huntley Company. Should this recommendation be approved, I see no reason for permitting any other parties to do transportation business within the Park, excepting those who furnish accommodations to campers. The licenses granted during the past year were but two in number, one to Mr. Dixon and the other to Mr. W. W. Wiley, both of whom cater mostly to those who wish to camp out, and who without this privilege would not be able to see the Park. Many parties still visit the Park in transportation belonging to themselves, or hired in places so distant from the Park that it is not practicable to settle the question of ownership or deny them the privilege of proceeding. The old trouble of camping grounds, unpoliced and unsightly from the rubbish left by camping parties, still continues unabated, in spite of my utmost endeavors to correct it.

The boat company has suffered quite as much as other industries in the Park from lack of patronage. The boat has been put in excellent condition, and it furnishes one of the most delightful bits of travel on the tour. The proposition to put a few small steam or naphtha launches on the lake has not been carried out, but I believe it would prove remunerative and certainly would be a great accommodation to tourists.

FISHING.

Within the Park proper there are but two species of fish, trout and grayling. Prior to 1889 but one species of trout existed, and that was the Oregon trout with black spots. In both 1889 and 1890 the U. S. Fish Commission stocked several of the streams of the Park with four other varieties, and they have multiplied to an almost inconceivable extent. It is the general verdict of all who have fished here that no better fishing can be found anywhere in the world. It is not considered necessary to limit the period of fishing within the Park, because it is sufficiently limited by climatic conditions. A year ago I requested the Commissioner of Fisheries to supply some black bass for plant in some lakes that were believed to be suitable for them, but the plant was not received until December, when the temperature was far below zero, and they all perished before reaching their destination. I have renewed the request for the plant, and have the assurance of the honorable Commissioner that it will be granted.

WORK DONE.

Work done in the Park can be classified under three separate heads: (1) that done by the troops as a military organization; (2) that performed under the direction of the Engineer Corps of the U. S. Army, and (3) that performed under the direction of the superintendent of the Park for the Interior Department. The first is under proper military scrutiny and is reported through proper channels to the War Department. The second is not in the least under my control, and so far as I know has never been supervised or properly inspected. Under the third heading the superintendent of the Park is allowed to spend the revenues coming from the leases in the Park for the current year. This year he is allowed the munificent sum of \$250, nearly all of which has to be expended in picking up filth left in the camping places along the traveled roads. It is a fact which I think should be brought to the

notice of the Department, that for years the private funds of the superintendent have been drawn upon to cover the ordinary and necessary expenses of the most frugal Park management. As a case in point I will cite a very recent example. In March last a desperate poacher was captured in the act of removing scalps from buffalo, which he had recently slaughtered. The capture was effected by a party on snow shoes, sent out under the legal orders of the Park superintendent. It was impossible for this party to carry rations. The War Department declines, under its well-known regulations, to approve accounts for provisions furnished at the hotels, because there were more than two in the party, and commutation is not allowed to parties of greater number. The Interior Department declines to audit the account, although the expense was incurred in the proper "management" of the Park, for the reason that these bills were incurred by people in military service, and hence should be paid by the appropriation for the Army. A consequence of such rulings must be to dishearten and discourage any superintendent, who, no matter what his enthusiasm may be, will naturally feel averse to paying a tax on his own efficiency.

POACHERS.

Unfortunately, I am not able to report any diminution of poaching during the last year, although I have devoted my best efforts to its suppression. A fortunate capture of a poacher last March deserves more than passing notice, in view of the consequences that followed it. Sometime in February I sent a scouting party across the Yellowstone and into the Pelican Valley to look after the herds of buffalo and elk that usually winter there. On the return of this party they reported to me that they had found an old snowshoe and toboggan trail, but that they were unable to follow it. It apparently headed in the direction of Cooke City. While this party was still out, word came to me that Ed. Howell, a notorious poacher of Cooke City, had passed the Soda Butte Station one stormy night and had gone on into Cooke for supplies, but that he had not carried any of his trophies with him. A few days after this the sergeant in charge of the Soda Butte Station reported the finding of a trail of this same party with his toboggan and followed it as far as the Park line. I then determined on a plan which resulted in the capture of Howell. I waited until I thought it was about time for him to be back in the Pelican country, and then sent out a large search party, with Capt. Scott in charge. This party arrived at the Lake Hotel on the evening of March 11. Next day Burgess and Sergt. Troike of the Sixth Cavalry went over into the country previously indicated by me, and made their camp.

On the morning of the 13th, very soon after starting, they came across some old snowshoe tracks which they could scarcely follow, but by continuing in the direction of them they soon came across a cache of six bison scalps suspended above the ground, in the limbs of a tree. Securing these trophies, the party continued on down Astringent Creek to its mouth and then turned down the Pelican. They soon came across a newly-erected lodge, with evidences of occupation, and numerous snowshoe tracks in the vicinity. Soon after this they were attracted by the sight of a man pursuing a herd of bison in the valley below them, followed by several shots from a rifle. After completing the killing, the culprit was seen to proceed with the removal of the scalps. While thus occupied with the first one my scouting party ran upon him and made the capture. It turned out, as I had anticipated, to be Howell, who

coolly remarked that if he had seen the party sooner they could never have captured him, meaning, of course, that he could have shot them before they were near enough to make effective the small pistol, which was the only weapon they carried. They brought him into this place as a prisoner, reaching here on the evening of the 16th of March.

I at once made full report of the affair and it was widely noted in the newspapers of the country. A suitable recognition, in the way of a certificate, was made of the coolness and bravery of Burgess and Troike. The scalps, as far as they could be saved, were brought in and properly prepared by a competent taxidermist and placed at the disposal of the Department. The feeling aroused in the minds of the public by this act of vandalism stirred Congress to prompt action, so that on May 7 an act for the protection of game in the Park received the President's signature. In order that it may receive wider distribution, I inclose a copy to be printed with this report. Howell denied having killed any bison but those found near him, but I feel sure that he did kill the six found in the cache, and it is quite probable that he killed others which we did not find. In one sense it was the most fortunate thing that ever happened to the Park, for it was surely the means of securing a law so much needed and so long striven for. On April 25 Howell was released from confinement in the guardhouse by your order and removed from the Park, and directed never again to return without proper permission. On the evening of July 28 I found him coolly sitting in the barber's chair in the hotel at this point. I instantly arrested him and reconfined him in the guardhouse, had him reported to the U. S. attorney for this district, and on the evening of August 8 he received the first conviction under the law which he was instrumental in having passed. He was convicted before the U. S. commissioner of returning after expulsion, in violation of the tenth of the Park regulations, and sentenced to confinement for one month and to a fine of \$50.

With this conviction as a precedent and a strong determination to make other arrests under the new law whenever it is violated, I believe the days of poaching in the Park are nearly at an end. The dead bodies of 13 bison have been discovered in their winter range. I at first believed this to have been the work of poachers, but investigation shows that no parts of them were taken; it also failed to reveal any bullet marks, though these might easily have escaped observation. I am now thoroughly convinced that they perished from natural causes. I had abundant evidence that beaver were being trapped in this vicinity last autumn; but with the most careful watching I failed to capture the culprits, although I pretty well knew who they were. A fishing party from the post found a large beaver in a trap, freshly caught. Another fishing party found a set trap with nothing in it. The same parties are yet operating in this vicinity, and I do not believe can much longer escape the vigilance of my scouts.

GAME.

Buffalo.—Buffalo have been more carefully watched and more accurately counted than ever before. After deducting the losses from all causes, I feel disposed to reduce my estimate of those remaining to 200, and I believe this to be very close to the mark. A few were seen in their winter range as late as the middle of June, and these had calves with them. They have not been pursued into their summer range, and no accurate statement as to the number of calves can be made.

Moose.—Reports from the outpost on Snake River show an increasing number of moose. They are seen so frequently in that vicinity that I believe they have been well protected and are certain to be preserved. Howell informed me, when I ordered him from the Park, that he had a moose scalp cached near the south line of the Park, and that if I would have him put out at that point he would give me this scalp. Of course, I declined his proposition.

Mountain sheep.—Mountain sheep continue to winter on Mount Everts in considerable numbers. Bands numbering from 10 to 30 can be seen almost any time in winter within a few yards of the roadside between here and Gardiner. As their winter habitat is in the portion of the Park within the State of Montana, the so-called "segregation act" would result in their extinction.

Elk.—The elk wintered well and all reports show a large number of young this spring. A party sent out to Yancey's to investigate the subject in March last saw at least 3,000 of them at one time from a single point of view. This is also in the portion of the Park to be cut off by the segregation bill. The valley of the East Fork of the Yellowstone winters more of them than any other portion of the Park, and should it be cut off, it is safe to say that their numbers would be diminished by at least one-half.

Antelope.—The usual herd of 500 wintered on Mount Everts, which is their only winter range. Should it be cut off, their extinction would follow within a year.

Deer.—Although deer are not as numerous as other varieties of game, we still see many of them during the winter, and they become very tame. From November until June it was easy to count 100 of them any day within a mile or two of this place.

Bears.—Bears are numerous in the vicinity of all the hotels and have become very tame. I recently shipped to the Washington Zoological Park an enormous grizzly bear, which was captured at the slaughter house 4 miles distant. After the passage of the act of March 7, I became doubtful of my authority to continue furnishing animals to the Washington Park. This question I duly presented to you, and, after reference to the Attorney-General, it was decided that I still had such authority; but before the decision had arrived it became too late to capture the young ruminants, and I will therefore have a smaller contribution to make this year than any previous one, although my zeal in the matter has not abated. In March or April last I was requested by the secretary of the Smithsonian Institution to select a site, and obtain proposals for erecting an inclosure in which to retain the wild animals here native. As soon as the conditions of the country permitted I made an inspection of a number of sites and selected one or two which I thought would best fulfill the conditions. I then drew designs and asked for proposals. On submitting these proposals to the acting secretary I was informed that the figures were so far beyond his estimate that nothing would probably be done in the matter.

GEYSERS.

I find there is a general belief in the minds of tourists that there is some measure of regularity in the period of eruptions of most if not all of the geysers. At various times during the last three years I have had records made by the guards of the observed eruptions. Of course, these do not include all of the geysers, nor have all of the eruptions of any one of them been noted. I inclose for publication as an appendix

to this report, a table made of observations upon them during the last three years. A casual inspection of it reveals the fact that none but Old Faithful has the slightest pretense to regularity.

I suggested in my last report that a work be written in popular style, thoroughly describing the Park, and giving in brief a history of the early explorations here. My idea was that this work should be written by some one in the Government service and printed and offered for free distribution by the Department. I have an assurance that such a work is now in course of preparation and will soon be issued, but will not be a Government publication, and, as it can only be had by purchase, it will not have the large circulation that I would wish for it.

RECOMMENDATIONS.

First. A complete survey of the Park boundaries, with an actual marking of the same, so that they may be instantly recognized wherever crossed.

Second. A transfer to the superintendent of the control of the appropriations for Park improvement.

Third. Liberal appropriations with which to complete the road system.

Fourth. The addition to the military post of accommodations for another company.

I am indebted to all the officers of the post for their zealous cooperation in all that tends to the welfare of the Park and for their cordial assistance in all of the duties pertaining to its management.

The meteorological record kept under the direction of Surgeon C. M. Gandy, U. S. Army, is hereto appended.

Yours very respectfully,

GEO. S. ANDERSON,

Captain, Sixth Cavalry, Acting Supt. Yellowstone National Park.

The SECRETARY OF THE INTERIOR.

AN ACT to protect the birds and animals in Yellowstone National Park, and to punish crimes in said park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Yellowstone National Park, as its boundaries now are defined, or as they may be hereafter defined or extended, shall be under the sole and exclusive jurisdiction of the United States; and that all the laws applicable to places under the sole and exclusive jurisdiction of the United States shall have force and effect in said park: *Provided, however,* That nothing in this Act shall be construed to forbid the service in the park of any civil or criminal process of any court having jurisdiction in the States of Idaho, Montana, and Wyoming. All fugitives from justice taking refuge in said park shall be subject to the same laws as refugees from justice found in the State of Wyoming.

SEC. 2. That said park, for all the purposes of this Act, shall constitute a part of the United States judicial district of Wyoming, and the district and circuit courts of the United States in and for said district shall have jurisdiction of all offenses committed within said park.

SEC. 3. That if any offense shall be committed in said Yellowstone National Park, which offense is not prohibited or the punishment is not specially provided for by any law of the United States or by any regulation of the Secretary of the Interior, the offender shall be subject to the same punishment as the laws of the State of Wyoming in force at the time of the commission of the offense may provide for a like offense in the said State; and no subsequent repeal of any such law of the State of Wyoming shall affect any prosecution for said offense committed within said park.

SEC. 4. That all hunting, or the killing, wounding, or capturing at any time of any bird or wild animal, except dangerous animals, when it is necessary to prevent them from destroying human life or inflicting an injury, is prohibited within the limits of

said park; nor shall any fish be taken out of the waters of the park by means of seines, nets, traps, or by the use of drugs or any explosive substances or compounds, or in any other way than by hook and line, and then only at such seasons and in such times and manner as may be directed by the Secretary of the Interior. That the Secretary of the Interior shall make and publish such rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of all timber, mineral deposits, natural curiosities, or wonderful objects within said park; and for the protection of the animals and birds in the park, from capture or destruction, or to prevent their being frightened or driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park. Possession within the said park of the dead bodies, or any part thereof, of any wild bird or animal shall be prima facie evidence that the person or persons having the same are guilty of violating this Act. Any person or persons, or stage or express company or railway company, receiving for transportation any of the said animals, birds, or fish so killed, taken, or caught shall be deemed guilty of a misdemeanor, and shall be fined for every such offense not exceeding three hundred dollars. Any person found guilty of violating any of the provisions of this Act or any rule or regulation that may be promulgated by the Secretary of the Interior with reference to the management and care of the park, or for the protection of the property therein, for the preservation from injury or spoliation of timber, mineral deposits, natural curiosities or wonderful objects within said park, or for the protection of the animals, birds and fish in the said park, shall be deemed guilty of a misdemeanor, and shall be subjected to a fine of not more than one thousand dollars or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

That all guns, traps, teams, horses, or means of transportation of every nature or description used by any person or persons within said park limits when engaged in killing, trapping, ensnaring, or capturing such wild beasts, birds, or wild animals shall be forfeited to the United States, and may be seized by the officers in said park and held pending the prosecution of any person or persons arrested under charge of violating the provisions of this Act, and upon conviction under this Act of such person or persons using said guns, traps, teams, horses, or other means of transportation such forfeiture shall be adjudicated as a penalty in addition to the other punishment provided in this Act. Such forfeited property shall be disposed of and accounted for by and under the authority of the Secretary of the Interior.

SEC. 5. That the United States circuit court in said district shall appoint a commissioner, who shall reside in the park, who shall have jurisdiction to hear and act upon all complaints made, of any and all violations of the law, or of the rules and regulations made by the Secretary of the Interior for the government of the park, and for the protection of the animals, birds, and fish and objects of interest therein, and for other purposes authorized by this Act. Such commissioner shall have power, upon sworn information, to issue process in the name of the United States for the arrest of any person charged with the commission of any misdemeanor, or charged with the violation of the rules and regulations, or with the violation of any provision of this Act prescribed for the government of said park, and for the protection of the animals, birds, and fish in the said park, and to try the person so charged, and, if found guilty, to impose the punishment and adjudge the forfeiture prescribed. In all cases of conviction an appeal shall lie from the judgment of said commissioner to the United States district court for the district of Wyoming, said appeal to be governed by the laws of the State of Wyoming providing for appeals in cases of misdemeanor from justices of the peace to the district court of said State; but the United States circuit court in said district may prescribe rules of procedure and practice for said commissioner in the trial of cases and for appeal to said United States district court. Said commissioner shall also have power to issue process as hereinbefore provided for the arrest of any person charged with the commission of any felony within the park, and to summarily hear the evidence introduced, and, if he shall determine that probable cause is shown for holding the person so charged for trial, shall cause such person to be safely conveyed to a secure place for confinement, within the jurisdiction of the United States district court in said State of Wyoming, and shall certify a transcript of the record of his proceedings and the testimony in the case to the said court, which court shall have jurisdiction of the case: *Provided*, That the said commissioner shall grant bail in all cases bailable under the laws of the United States or of said State. All process issued by the commissioner shall be directed to the marshal of the United States for the district of Wyoming; but nothing herein contained shall be construed as preventing the arrest by any officer of the Government or employee of the United States in the park without process of any person taken in the act of violating the law or any regulation of the Secretary of the Interior: *Provided*, That the said commissioner shall only exercise such authority and powers as are conferred by this Act.

SEC. 6. That the marshal of the United States for the district of Wyoming may appoint one or more deputy marshals for said park, who shall reside in said park, and the said United States district and circuit courts shall hold one session of said courts annually at the town of Sheridan in the State of Wyoming, and may also hold other sessions at any other place in said State of Wyoming or in said National Park at such dates as the said courts may order.

SEC. 7. That the commissioner provided for in this Act shall, in addition to the fees allowed by law to commissioners of the circuit courts of the United States, be paid an annual salary of one thousand dollars, payable quarterly, and the marshal of the United States and his deputies, and the attorney of the United States and his assistants in said district, shall be paid the same compensation and fees as are now provided by law for like services in said district.

SEC. 8. That all costs and expenses arising in cases under this Act, and properly chargeable to the United States, shall be certified, approved, and paid as like costs and expenses in the courts of the United States are certified, approved, and paid under the laws of the United States.

SEC. 9. That the Secretary of the Interior shall cause to be erected in the park a suitable building to be used as a jail, and also having in said building an office for the use of the commissioner, the cost of such building not to exceed five thousand dollars, to be paid out of any moneys in the Treasury not otherwise appropriated upon the certificate of the Secretary as a voucher therefor.

SEC. 10. That this Act shall not be construed to repeal existing laws conferring upon the Secretary of the Interior and the Secretary of War certain powers with reference to the protection, improvement, and control of the said Yellowstone National Park.

Approved, May 7, 1894.

RULES AND REGULATIONS OF THE YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,
Washington, D. C., August 1, 1894.

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes United States, and the act of Congress approved May 7, 1894:

1. It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb, in any manner, or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the Park.

2. It is forbidden to ride or drive upon any of the geyser or hot spring formations or to turn loose stock to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

4. Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass, and any one failing to comply therewith shall be peremptorily removed from the Park.

5. Hunting or killing, wounding, or capturing of any bird or wild animal, except dangerous animals, when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the Park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the Park on written permission of the superintendent thereof. On arrival at the first station of the Park guard parties having firearms will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the Park.

6. Fishing with nets, seines, traps, or by use of drugs or explosives, or in any other way than with hook and line is prohibited. Fishing for purposes of merchandise or profit is forbidden by law. Fishing may be prohibited by order of the superintendent of the Park in any of the waters of the Park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

7. No person will be permitted to reside permanently or to engage in any business

in the Park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the Park unless in charge of a duly registered guide.

8. The herding or grazing of loose stock or cattle of any kind within the Park, as well as the driving of such stock or cattle over the roads of the Park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior.

9. No drinking saloon or barroom will be permitted within the limits of the Park.

10. Private notices or advertisements shall not be posted or displayed within the Park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

11. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the Park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor and be subjected to a fine, as provided by the act of Congress approved May 7, 1894, "To protect the birds and animals in Yellowstone National Park and to punish crimes in said Park, and for other purposes," of not more than \$1,000 or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

HOKE SMITH,
Secretary of the Interior.

METEOROLOGICAL RECORD.

JULY, 1893.							AUGUST, 1893.							SEPTEMBER, 1893.						
Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.	Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.	Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	75	36	39	S	.....		1.....	89				.....		1.....	73			W.	.....
2.....	73	39	34	S	.....	Rain.	2.....	91			S	.....		2.....	80			E.	.....
3.....	83	38	45	SW.	0.09		3.....	87			SW.	.....		3.....	81			SE.	.....
4.....	78	50	28	S	.....		4.....	89			S	.....		4.....	84			NW.	.....
5.....	72	39	33	SW.	.....		5.....	87			SW.	.....		5.....	76			W.	.....	Rain.
6.....	63	39	24	NW.	.....		6.....	86			W.	.....		6.....	80			E.	.....
7.....	63	36	29	NW.	0.05	Rain and hail.	7.....	85			SW.	.....		7.....	81			S.	.....
8.....	67	36	31	S.	.....		8.....	81			S	.....		8.....	75			E.	.....	Rain.
9.....	81	33	48	S.	.....		9.....	80			S	0.03		9.....	57			S.	.....
10.....	86	41	45	S.	.....		10.....	74			W.	.....		10.....	61			E.	.....
11.....	83	50	33		.....	Heavy wind-storm; thermometer broken.	11.....	81				.....		11.....	73			E.	.....
12.....					.....		12.....	80				0.01		12.....	73			N.	.....
13.....				S	.....		13.....	78			S.	.....		13.....	49			NE.	.....
14.....				S	.....		14.....	68			NW.	.....		14.....	44			NE.	.....
15.....				SW.	.....		15.....	68			NW.	0.01		15.....	65			N.	.....
16.....				S	.....		16.....	77			S	.....		16.....	70			N.	.....	Rain.
17.....				S	.....		17.....	83			S	0.03		17.....	67			E.	.....	Rain.
18.....				S	.....		18.....	78			S	0.05		18.....	51			E.	.....
19.....				S	.....		19.....	72			S	0.27		19.....	54			NE.	.....	Rain.
20.....				SE	.....		20.....	78			SW.	0.49		20.....	67			NE.	.....
21.....				W.	.....		21.....	73			SW.	0.03		21.....	61			N.	.....	Snow.
22.....				W.	.....		22.....	71			SW.	0.14		22.....	61			N.	.....
23.....				S	.....		23.....	69			S	.....		23.....	41			NE.	.....
24.....				S	.....		24.....	78			SW.	.....		24.....	61			W.	.....
25.....				S	.....		25.....	79			SW.	.....		25.....	59			W.	.....
26.....				S	0.15	Rain.	26.....	64			SW.	.....		26.....	65			W.	.....
27.....				S	.....		27.....	70			W.	.....		27.....	73			W.	.....
28.....				S	0.25	Rain and hail.	28.....	75			W.	.....		28.....	62			S.	.....
29.....				S	0.40	Rain and hail.	29.....	78			W.	.....		29.....	55			SW.	.....	Sleet.
30.....				S	0.05	Rain and hail.	30.....	73			W.	.....		30.....	49			N.	.....
31.....					.....		31.....	73			W.	.....		31.....	49				.....
Total					0.99		Total	2,405						Total	1,958					
Mean				S.	.....		Mean	77.58			S.	1.06		Mean	65.27			E.	.....

Maximum, 86 on 10th; minimum, 36 on 1st, 7th, and 8th; total precipitation, 0.99 inch; prevailing wind, south.

Maximum, 91, 2d instant; average maximum, 77.58; total precipitation, 1.06 inches; wind, south.

Maximum, 84, 4th instant; average, 65.27; total precipitation, 1.44 inches; prevailing wind, east.

DECEMBER, 1893.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	38	27	11	S.	0.15	Snow.
2.....	39	26	13	S.	.....	.....
3.....	30	16	14	SE.	.....	.....
4.....	37	25	12	S.	.....	.....
5.....	33	5	28	SW.	.....	.....
6.....	31	18	13	SW.	.....	.....
7.....	35	27	8	.....	0.05	Snow.
8.....	36	25	11	.....	.....	.....
9.....	34	24	10	.....	.....	.....
10.....	36	29	7	.....	0.25	Snow.
11.....	35	18	17	N.	.....	.....
12.....	32	11	21	SE.	.....	.....
13.....	35	28	7	S.	0.35	Snow.
14.....	34	25	9	NW.	0.90	Snow.
15.....	25	10	15	.....	0.14	Snow.
16.....	33	17	16	S.	.....	.....
17.....	35	20	15	S.	.....	.....
18.....	29	16	13	SE.	.....	.....
19.....	31	11	20	S.	.....	.....
20.....	38	18	20	S.	.....	.....
21.....	33	21	12	S.	0.07	Snow.
22.....	36	25	11	SE.	.....	.....
23.....	31	18	13	N.	.....	.....
24.....	19	3	16	S.	.....	.....
25.....	23	5	18	S.	.....	.....
26.....	29	14	15	S.	.....	.....
27.....	18	0	18	N.	.....	.....
28.....	19	14	5	N.	.....	.....
29.....	18	5	13	N.	.....	.....
30.....	19	11	8	S.	.....	.....
31.....	30	18	12	S.	.....	.....
Total.	951	530	421	.....	.....	.....
Mean.	30.68	17.10	13.58	S.	1.91	.....

Maximum, 39, 2d instant; minimum, 0, 27th instant; mean, 23.89; total precipitation, 1.91; prevailing winds, south; depth of snow fall, 20.25 inches.

NOVEMBER, 1893.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	27	.....	.....	N.	0.90	Snow.
2.....	26	.....	.....	N.	.....	.....
3.....	34	.....	.....	N.	.....	.....
4.....	45	.....	.....	N.	.....	.....
5.....	45	.....	.....	N.	0.23	Rain.
6.....	45	.....	.....	N.	.....	.....
7.....	42	.....	.....	SE.	.....	.....
8.....	46	.....	.....	.....	.....	.....
9.....	44	.....	.....	N.	.....	.....
10.....	37	.....	.....	N.	.....	.....
11.....	36	.....	.....	N.	.....	.....
12.....	41	.....	.....	N.	0.20	Snow.
13.....	35	.....	.....	N.	.....	.....
14.....	41	.....	.....	N.	.....	.....
15.....	46	.....	.....	N.	.....	.....
16.....	36	.....	.....	N.	0.15	Snow.
17.....	23	.....	.....	N.	.....	.....
18.....	30	.....	.....	N.	.....	.....
19.....	34	.....	.....	N.	.....	.....
20.....	36	.....	.....	N.	.....	.....
21.....	31	15	16	N.	0.09	Snow.
22.....	23	2	21	N.	.....	.....
23.....	22	5	17	N.	.....	.....
24.....	35	21	14	N.	.....	.....
25.....	34	27	7	N.	0.22	Snow.
26.....	36	25	11	N.	.....	.....
27.....	37	29	8	N.	.....	.....
28.....	36	29	7	N.	0.32	Snow.
29.....	37	28	9	N.	.....	.....
30.....	28	0	28	N.	0.40	Snow.
Total.	1,066	181	138	.....	.....	.....
Mean.	35.53	6.03	4.16	S.	2.51	.....

Maximum, 46, 15th instant; minimum, 0, 30th instant; mean, 8.33, from 21st to 30th; total precipitation, 2.51 inches; prevailing winds, south; depth of snow fall, 22.50 inches.

OCTOBER, 1893.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	45	.....	.....	N.	0.25	Rain.
2.....	43	.....	.....	NW.	.....	.....
3.....	38	.....	.....	N.	.....	.....
4.....	39	.....	.....	N.	.....	.....
5.....	48	.....	.....	E.	.....	.....
6.....	48	.....	.....	N.	.....	.....
7.....	58	.....	.....	W.	0.17	Rain.
8.....	53	.....	.....	S.	0.02	Rain.
9.....	40	.....	.....	N.	0.16	Snow.
10.....	27	.....	.....	N.	0.20	Snow.
11.....	48	.....	.....	S.	.....	.....
12.....	43	.....	.....	S.	.....	.....
13.....	64	.....	.....	S.	.....	.....
14.....	65	.....	.....	S.	.....	.....
15.....	82	.....	.....	SE.	.....	.....
16.....	38	.....	.....	SE.	.....	.....
17.....	51	.....	.....	S.	.....	.....
18.....	62	.....	.....	S.	.....	.....
19.....	64	.....	.....	S.	.....	.....
20.....	63	.....	.....	SE.	.....	.....
21.....	44	.....	.....	N.	0.09	Snow.
22.....	42	.....	.....	N.	.....	.....
23.....	36	.....	.....	N.	.....	.....
24.....	39	.....	.....	N.	.....	.....
25.....	41	.....	.....	N.	0.30	Snow.
26.....	45	.....	.....	S.	.....	.....
27.....	57	.....	.....	SE.	.....	.....
28.....	61	.....	.....	SE.	.....	.....
29.....	51	.....	.....	SE.	.....	.....
30.....	47	.....	.....	E.	0.15	Rain.
31.....	43	.....	.....	S.	.....	.....
Total.	1,535	.....	.....	.....	.....	.....
Mean.	49.52	.....	.....	S.	1.34	.....

Maximum, 82, 16th instant; average, 49.52; total precipitation, 1.34 inches; prevailing wind, south; total depth of snow fall, 5.90 inches.

METEOROLOGICAL RECORD—Continued.

JANUARY, 1894.							FEBRUARY, 1894.							MARCH, 1894.						
Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.	Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.	Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	35	25	10	S	.....		1.....	23	7	30	S	.....		1.....	35	22	13	S	.....	.....
2.....	31	23	8	S	.....		2.....	20	11	32	S	.....		2.....	41	24	17	S	.....	.....
3.....	30	6	24	N.	.....		3.....	21	8	12	S	.....		3.....	39	26	13	S	.....	.....
4.....	15	3	12	N.	.....		4.....	27	0	25	S	.....		4.....	30	12	18	N.	.....	.....
5.....	3	21	24	N.	.....		5.....	28	0	28	S	.....		5.....	20	5	15	N.	.....	.....
6.....	5	4	11	N.	.....		6.....	25	9	16	N.	.....		6.....	28	15	13	N.	.....	.....
7.....	15	4	13	N.	.....		7.....	31	19	12	SW.	0.15	.....	7.....	24	13	11	S	.....	.....
8.....	14	5	19	N.	.....		8.....	30	8	22	N.	.....	.....	8.....	30	11	19	S	.....	.....
9.....	13	10	23	S	.....		9.....	30	5	9	N.	.....	.....	9.....	29	23	6	S	.....	.....
10.....	25	10	15	S	.....		10.....	5	15	20	N.	.....	.....	10.....	25	10	15	N.	.....	.....
11.....	24	11	13	SE.	0.41	Snow.	11.....	14	20	34	N.	0.05	.....	11.....	32	18	14	E.	.....	.....
12.....	40	29	11	S	.....		12.....	20	1	19	S	.....	.....	12.....	44	30	14	E.	.....	.....
13.....	43	32	11	S	.....		13.....	25	4	17	S	.....	.....	13.....	43	32	11	S	.....	.....
14.....	30	34	4	S	0.21	Sleet.	14.....	34	17	17	S	.....	.....	14.....	36	31	5	S	.....	.....
15.....	36	27	9	S	.....		15.....	28	12	16	N.	.....	.....	15.....	42	30	12	S	.....	.....
16.....	29	9	20	N.	.....		16.....	19	0	13	SE.	0.41	.....	16.....	31	22	9	S	.....	.....
17.....	25	0	25	NW.	.....		17.....	19	4	15	N.	.....	.....	17.....	32	15	17	N.	.....	.....
18.....	22	1	21	N.	.....		18.....	15	17	32	N.	.....	.....	18.....	31	23	8	N.	.....	.....
19.....	25	11	14	S	.....		19.....	1	22	21	N.	0.31	.....	19.....	30	25	5	N.	.....	.....
20.....	28	15	13	N.	.....		20.....	6	24	30	N.	.....	.....	20.....	20	12	8	N.	.....	.....
21.....	29	12	17	N.	.....		21.....	16	15	31	N.	.....	.....	21.....	19	8	11	N.	.....	.....
22.....	10	25	35	N.	.....		22.....	29	12	35	S	.....	.....	22.....	40	5	45	S	.....	.....
23.....	20	11	9	SE.	.....		23.....	32	6	26	S	.....	.....	23.....	44	16	28	S	.....	.....
24.....	20	11	9	SE.	.....		24.....	32	12	20	N.	.....	.....	24.....	38	14	24	S	.....	.....
25.....	20	11	9	SE.	.....		25.....	36	14	22	S	.....	.....	25.....	36	15	21	N.	.....	.....
26.....	28	18	10	S	.....		26.....	33	16	17	S	.....	.....	26.....	47	22	25	S	.....	.....
27.....	24	14	10	S	.....		27.....	33	17	16	S	.....	.....	27.....	41	22	19	N.	.....	.....
28.....	30	18	12	S	.....		28.....	33	17	16	S	0.20	.....	28.....	48	8	40	N.	.....	.....
29.....	33	21	12	S	.....		29.....	41	26	15	S	.....	.....	29.....	47	37	10	S	.....	.....
30.....	31	14	17	S	.....		30.....	41	31	10	S	.....	.....	30.....	47	37	10	S	.....	.....
31.....	17	5	12	N.	0.37	Snow.	31.....	41	31	10	S	.....	.....	31.....	39	12	27	S	.....	.....
Total	770	295	475	.....	1.82		Total	644	37	607	.....	1.12		Total	1,101	584	517	.....	.....	.....
Mean	24.84	9.52	15.32	S.	.....		Mean	23.00	1.32	21.68	S.	.....		Mean	35.52	18.84	16.68	S.	.....	.....

Maximum, 43. 14th instant; minimum, —25, 23d instant; mean, 17.18; total precipitation, 1.82; prevailing winds, south; depth of snow fall, 16.35 inches.

Maximum, 41, 28th instant; minimum, —24, 21st instant; mean, 12.41; total precipitation, 1.12; prevailing winds, south; depth of snow fall, 11.25 inches.

Maximum, 48, 28th instant; minimum, —5, 22d instant; mean, 27.18; total precipitation, 2.30; prevailing winds, south; depth of snow fall, 22.65 inches.

JUNE, 1894.

MAY, 1894.

APRIL, 1894.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	74	48	26	W.	0.05	Rain.
2.....	76	62	14	W.	0.01	Rain.
3.....	82	73	9	W.	.....	.....
4.....	80	50	30	W.	.....	.....
5.....	85	54	31	SE.	.....	.....
6.....	79	53	26	SE.	0.16	Rain.
7.....	63	53	10	S.	0.60	Rain and hail.
8.....	51	46	5	SW.	.....	.....
9.....	54	46	8	NW.	.....	.....
10.....	44	40	4	N.	0.65	Rain and snow.
11.....	58	47	11	N.	0.11	Rain and snow.
12.....	57	46	11	N.	0.24	Rain and snow.
13.....	51	42	9	N.	0.23	Rain, hail, and snow.
14.....	59	43	16	S.	.....	.....
15.....	70	49	21	NW.	.....	.....
16.....	75	49	26	S.	0.63	Rain.
17.....	73	49	26	S.	0.02	Rain and hail.
18.....	72	48	24	S.	.....	Slight storms.
19.....	61	50	11	N.	0.28	Rain.
20.....	60	52	8	N.	0.05	Rain and hail.
21.....	67	48	19	S.	0.63	Rain.
22.....	68	47	21	SW.	0.07	Rain and hail.
23.....	62	52	10	W.	0.05	Rain.
24.....	70	53	17	S.	0.02	Rain and hail.
25.....	73	48	23	S.	0.04	Rain.
26.....	61	50	11	SW.	0.05	Rain.
27.....	60	50	10	SW.	0.02	Rain.
28.....	60	53	7	S.	0.05	Rain.
29.....	70	50	20	S.	0.22	Rain.
30.....	67	50	17	S.	0.12	Rain and hail.
Total	1,984	1,501	483	.....	3.10	.....
Mean	66.13	50.03	16.10	S.	.....	.....

Maximum, 85, 5th instant; minimum, 42, 13th instant; mean temperature for the month, 58.08; total precipitation, 3.10 inches; prevailing winds, south.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	46	28	18	N.	0.78	Snow and rain.
2.....	46	22	24	NW.	0.06	Rain.
3.....	47	23	24	SW.	.....	.....
4.....	46	36	10	E.	0.32	Rain.
5.....	52	37	15	E.	.....	.....
6.....	60	38	22	S.	.....	.....
7.....	61	33	28	S.	.....	.....
8.....	62	40	22	S.	.....	.....
9.....	56	25	31	W.	.....	.....
10.....	57	21	36	SW.	.....	.....
11.....	67	38	29	S.	0.02	Rain.
12.....	69	39	30	S.	.....	.....
13.....	72	45	27	S.	.....	.....
14.....	71	41	30	S.	.....	.....
15.....	65	36	29	N.	0.15	Rain.
16.....	45	31	14	NE.	0.45	Snow and rain.
17.....	58	33	23	NE.	.....	.....
18.....	72	32	40	W.	.....	.....
19.....	70	42	28	S.	.....	.....
20.....	71	36	35	S.	.....	.....
21.....	66	38	28	S.	0.35	Rain.
22.....	35	39	16	E.	0.10	Rain.
23.....	68	39	29	S.	.....	.....
24.....	71	38	33	S.	.....	.....
25.....	75	37	38	W.	0.05	Rain.
26.....	73	38	35	S.	.....	.....
27.....	76	43	33	NW.	.....	.....
28.....	78	40	38	S.	.....	.....
29.....	76	39	37	S.	.....	.....
30.....	76	43	33	E.	.....	.....
31.....	71	43	28	SE.	0.03	.....
Total	1,976	1,115	861	.....	2.26	.....
Mean	63.74	35.97	27.77	S.	.....	.....

Maximum, 78, 28th instant; minimum, 21, 10th instant; monthly mean, 49.86; total precipitation, 2.26; prevailing winds, south.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1.....	47	31	16	S.	0.69	Snow and rain.
2.....	44	24	10	N.	.....	.....
3.....	32	20	12	N.	.....	.....
4.....	38	8	26	S.	.....	.....
5.....	46	18	26	S.	.....	.....
6.....	52	30	20	S.	.....	.....
7.....	48	30	18	N.	0.14	Sleet.
8.....	35	12	23	S.	.....	.....
9.....	42	21	21	S.	.....	.....
10.....	55	29	26	S.	.....	.....
11.....	51	30	21	N.	0.72	Snow.
12.....	42	18	24	N.	.....	.....
13.....	46	26	20	S.	.....	.....
14.....	45	29	16	S.	.....	.....
15.....	44	27	17	S.	.....	.....
16.....	41	25	16	N.	0.05	Snow.
17.....	42	21	21	N.	0.02	Snow.
18.....	40	28	12	N.	.....	.....
19.....	54	22	32	N.	.....	.....
20.....	63	30	33	S.	.....	.....
21.....	64	38	26	S.	.....	.....
22.....	55	38	17	S.	0.21	Rain.
23.....	52	37	15	N.	.....	.....
24.....	50	36	14	SW.	.....	.....
25.....	65	33	32	S.	0.04	Snow and rain.
26.....	66	33	33	S.	.....	.....
27.....	51	28	23	N.	.....	.....
28.....	46	32	14	N.	.....	.....
29.....	55	27	28	NW.	.....	.....
30.....	52	29	23	S.	.....	.....
Total	1,463	812	651	.....	1.87	.....
Mean	48.76	27.06	21.70	S.	.....	.....

Maximum, 66, 26th instant; minimum, 8, 4th instant; mean, 38.86; total precipitation, 1.87; prevailing winds, south; depth of snow fall, 5.69 inches.

Observed eruptions of geysers at Upper Basin, Yellowstone National Park.

JUNE, 1891.

		Beehive.	Castle.	Giant.	Giantess.	Grand.	Lion.	Riverside.	Splendid.
1	A. M								
	P. M								
2	A. M								
	P. M								
3	A. M								
	P. M								
4	A. M								
	P. M								
5	A. M								
	P. M								
6	A. M								
	P. M								
7	A. M								
	P. M								
8	A. M		3.30						
	P. M								
9	A. M								
	P. M								
10	A. M	9.30			4.30				
	P. M								
11	A. M	3.00				12.45			
	P. M		11.55						
12	A. M		7.00						
	P. M								
13	A. M						12.13		
	P. M								
14	A. M		6.00						
	P. M								
15	A. M		6.05						
	P. M								
16	A. M		10.25			8.45			
	P. M			11.35					
17	A. M		5.35						
	P. M		10.30						
18	A. M								
	P. M		7.05				2.55		11.55
19	A. M	2.35							
	P. M								
20	A. M								8.05, 10.35,
	P. M								11.55
21	A. M								1.05, 3.25,
	P. M								5.55
22	A. M								
	P. M								
23	A. M					11.30			
	P. M	12.05	10.25						
24	A. M			11.05					
	P. M	12.08	3.30						
25	A. M	3.40							
	P. M								
26	A. M		10.25						
	P. M		3.35						
27	A. M						8.45, 10.05,		
	P. M						11.45		
28	A. M	1.25					2.05, 5.10		
	P. M								
29	A. M		2.15			3.15			7.05, 10.35
	P. M								1.05, 4.25
30	A. M								
	P. M	3.45	4.35						

Observed eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

JULY, 1891.

		Beehive.	Castle.	Giant.	Grand.	Splendid.
1.....	{ A. M.					
	{ P. M.	5.30	6.30			
2.....	{ A. M.					
	{ P. M.	2.45			1.05	
3.....	{ A. M.					8.30
	{ P. M.	1.30	2.15			
4.....	{ A. M.	11.30	8.30		11.40	
	{ P. M.					
5.....	{ A. M.					
	{ P. M.	1.45	12.40	12.45		
6.....	{ A. M.					7.10
	{ P. M.	3.00				
7.....	{ A. M.					
	{ P. M.	1.05	7.30			
8.....	{ A. M.				6.30	7.25, 10.15
	{ P. M.		12.25			12.30
9.....	{ A. M.					
	{ P. M.		5.25			
10.....	{ A. M.					
	{ P. M.		5.05			
11.....	{ A. M.				5.05	
	{ P. M.					
12.....	{ A. M.					
	{ P. M.					
13.....	{ A. M.					
	{ P. M.		8.05			
14.....	{ A. M.		10.10			
	{ P. M.					9.20, 10.20
15.....	{ A. M.		9.00			
	{ P. M.					4.10, 7.10
16.....	{ A. M.					8.20, 10.20
	{ P. M.	1.05	2.30			12.05
17.....	{ A. M.					
	{ P. M.	3.25	6.05			
18.....	{ A. M.				4.25	7.15, 9.00, 11.30
	{ P. M.	5.30				2.40, 5.45
19.....	{ A. M.	9.05				
	{ P. M.					5.15
20.....	{ A. M.		10.15			7.05
	{ P. M.	1.05				1.45, 8.10
21.....	{ A. M.		10.05		6.30	
	{ P. M.	2.15				
22.....	{ A. M.					10.00
	{ P. M.	2.30	2.00			4.10, 7.30
23.....	{ A. M.					7.00
	{ P. M.	1.15			12.45	
24.....	{ A. M.			6.05		
	{ P. M.	2.10				6.15
	{ A. M.		8.30			9.00
25.....	{ P. M.	3.15				12.30, 3.00, 5.10
26.....	{ A. M.					
	{ P. M.	3.20	1.45			
27.....	{ A. M.					
	{ P. M.		2.10			3.15
28.....	{ A. M.					7.30
	{ P. M.	12.15	1.45			12.05, 2.15
29.....	{ A. M.					
	{ P. M.	12.45	3.15			
30.....	{ A. M.			5.55		
	{ P. M.	3.00				1.00, 4.15, 7.00
31.....	{ A. M.					
	{ P. M.	3.20				

Observed eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

JULY, 1893.

		Artemisia.	Beehive.	Castle.	Giant.	Giantess.	Grand.	Oblong.	Splendid.
1	A. M.		6. 10	11. 55	9. 30			9. 30	
	P. M.		11. 00					3. 30	
2	A. M.		6. 00						
	P. M.			3. 15					
3	A. M.								
	P. M.			5. 20					
4	A. M.			6. 00					
	P. M.								
5	A. M.			9. 05			6. 10		
	P. M.							2. 20	
	A. M.						10. 00	8. 10	
6	P. M.			1. 30					5. 10, 8. 30, 10. 00, 11. 45 1. 15, 6. 20
7	A. M.								
	P. M.			7. 00					
8	A. M.				11. 00		11. 05		
	P. M.	1. 30		2. 05				2. 30	
9	A. M.								
	P. M.								
10	A. M.			5. 00				10. 05	
	P. M.							1. 00	
11	A. M.			4. 00					
	P. M.								
12	A. M.								
	P. M.			9. 30					
13	A. M.								
	P. M.			6. 00					
14	A. M.	9. 00			3. 15				
	P. M.			7. 05					
15	A. M.						10. 00	9. 00	
	P. M.			7. 35					
16	A. M.								
	P. M.								
17	A. M.		6. 00	9. 30			9. 30		
	P. M.		1. 20, 10. 00			6. 30		4. 00	
18	A. M.								
	P. M.			1. 00					
19	A. M.								
	P. M.			7. 00					
20	A. M.								
	P. M.			12. 05					
21	A. M.								
	P. M.			3. 25				6. 05	
22	A. M.			5. 20	7. 05				
	P. M.								
23	A. M.	10. 30							
	P. M.								
24	A. M.			11. 30					
	P. M.								
25	A. M.						7. 00		
	P. M.							2. 30	
26	A. M.			11. 00					
	P. M.								
27	A. M.							10. 00	
	P. M.			1. 00					
28	A. M.								
	P. M.								
29	A. M.						6. 00		
	P. M.							6. 05	
30	A. M.							10. 05	
	P. M.			1. 15					
31	A. M.			8. 00			9. 30	6. 00	
	P. M.								

Observed eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

AUGUST, 1893.

		Artemisia.	Beehive.	Castle.	Giant.	Giantess.	Grand.	Oblong.	Splendid.
1....	{ A. M		8.30					8.00	
	{ P. M			9.05	12.05		9.00		
2....	{ A. M							11.40	
	{ P. M								
3....	{ A. M			7.20			7.20	8.10	
	{ P. M							3.20	
4....	{ A. M			9.30			9.30	10.00	
	{ P. M	5.00							
5....	{ A. M			6.20			6.20	7.30	
	{ P. M							2.30	
6....	{ A. M							11.00	
	{ P. M			4.20			4.20		
7....	{ A. M							6.20	
	{ P. M							2.15	
8....	{ A. M			6.10			6.10		
	{ P. M			3.20, 11.30	11.30		3.20		
9....	{ A. M							6.20	
	{ P. M		2.10					3.10	
10....	{ A. M	8.00		11.20			11.20	8.00, 11.30	
	{ P. M							3.00	
11....	{ A. M							10.00	
	{ P. M			2.00			2.00		
12....	{ A. M							6.00	
	{ P. M		3.15						
13....	{ A. M							7.30	
	{ P. M		3.00	8.00			8.00	6.00	
14....	{ A. M							9.00	
	{ P. M	5.25						5.55	
15....	{ A. M						8.10		
	{ P. M			8.10				4.05	
16....	{ A. M							11.58	
	{ P. M								
17....	{ A. M			7.30			7.10	6.30	
	{ P. M			6.00	9.00		6.30	3.45	
18....	{ A. M	9.05		4.30			7.00	7.00	
	{ P. M						6.00		
19....	{ A. M			10.00			8.00	3.00	
	{ P. M	5.40						8.00	
20....	{ A. M							7.00	
	{ P. M			4.00			7.05		
21....	{ A. M							9.05	
	{ P. M			9.20				5.30	
22....	{ A. M						8.00	6.30	
	{ P. M	3.00	2.20				7.00	3.50	
23....	{ A. M			2.30					
	{ P. M			10.00			7.05	3.00	
24....	{ A. M						8.00	6.55	
	{ P. M							5.00	
25....	{ A. M	8.05		9.00				8.00	7.00, 9.15, 11.20,
	{ P. M		2.30		8.00			1.00, 3.20	3.45
26....	{ A. M			3.00		8.00	7.10	6.00	
	{ P. M						3.15	3.00	
27....	{ A. M								
	{ P. M		1.40					6.00	
28....	{ A. M		11.30				8.00	7.00	
	{ P. M	6.25		12.30			7.00	5.30	
29....	{ A. M			5.20			9.10	8.00	
	{ P. M								
30....	{ A. M	10.32			11.45		7.20		
	{ P. M						8.00	3.45	
31....	{ A. M			8.30				7.00	
	{ P. M						6.00	5.30	

Observed eruptions of geysers at Upper Basin, Yellowstone National Park—Continued.

SEPTEMBER, 1893.

		Artemi- sia.	Beehive.	Castle.	Giant.	Giantess.	Grand.	Oblong.	Splendid.
1....	{ A. M.			12.15				6.45	
	{ P. M.								
2....	{ A. M.	5.30		2.00			7.30	7.30	
	{ P. M.			7.30			6.00	3.00	
3....	{ A. M.						10.00	10.00	
	{ P. M.			5.55			7.00		
4....	{ A. M.	6.00					6.00	7.00, 11.00	
	{ P. M.							6.00	
5....	{ A. M.			1.58	11.45			6.00, 11.30	
	{ P. M.			5.00				3.00	
6....	{ A. M.							6.00	8.00, 10.00
	{ P. M.	6.30					7.00	4.00	5.10, 7.00 9.00.
7....	{ A. M.						8.00	8.10	11.30.
	{ P. M.	7.00	7.20				6.00	4.00	
8....	{ A. M.			1.10			10.00	6.00	
	{ P. M.	6.10		6.20				1.30, 7.30	
9....	{ A. M.						7.00	8.00	
	{ P. M.	5.30					4.00	4.00	
10....	{ A. M.			2.05			8.10	8.00	
	{ P. M.	4.20		7.25			6.30	3.10, 9.15	
11....	{ A. M.						8.00	7.45	
	{ P. M.							5.00	
12....	{ A. M.		2.00	1.30				6.10, 11.10	
	{ P. M.			8.15			6.00	5.20	
13....	{ A. M.							8.00	
	{ P. M.	6.15					2.10	6.15	
14....	{ A. M.		2.25		8.30		8.15	8.45	
	{ P. M.			6.10			7.10	2.40	
15....	{ A. M.						9.00	7.15	
	{ P. M.	5.10		11.30				3.45	
16....	{ A. M.							7.30	
	{ P. M.			5.10			7.15	6.10	
17....	{ A. M.						8.30	8.00	
	{ P. M.	6.30					5.30	7.00	
18....	{ A. M.			12.52		5.10	8.10	8.10	
	{ P. M.							3.15	
19....	{ A. M.		2.15						
	{ P. M.	4.20	1.10	1.15			7.45	3.10	
20....	{ A. M.						8.15	6.00	
	{ P. M.	5.00	3.30, 9.20	11.30			7.10	2.00, 9.15	
21....	{ A. M.						7.30	5.00, 11.20	
	{ P. M.	6.30			9.25		5.15	6.10	
22....	{ A. M.			7.50			7.50	7.30	
	{ P. M.	3.05						5.10	
23....	{ A. M.	10.00		4.00			6.00	8.00	
	{ P. M.						5.00	5.00	
24....	{ A. M.			11.00				7.00	
	{ P. M.	5.04					12.40	4.20	
25....	{ A. M.						9.00	6.00, 11.30	
	{ P. M.			4.50				7.00	
26....	{ A. M.						6.30	7.10	
	{ P. M.	4.20		11.45			5.00	5.15	
27....	{ A. M.								
	{ P. M.			9.20			2.45		
28....	{ A. M.	6.15		10.30	9.15		7.10	9.00	
	{ P. M.						5.00	6.30	
29....	{ A. M.						8.10	7.15	
	{ P. M.	7.05					6.20	1.15, 6.30	
30....	{ A. M.			2.40			8.45	7.10	
	{ P. M.							3.45	

